

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Wolfgang Beigang

Serial No.: 10/723,569

Group Art Unit: 3683

Filed: November 26, 2003

Examiner: Xuan Lan T. Nguyen

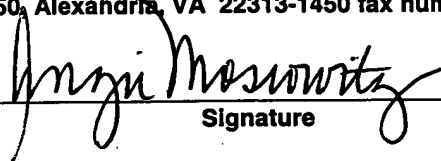
For: VIBRATION ABSORBER

Attorney Docket No: GKNK 1184 PUS

I hereby certify that this correspondence is being sent via facsimile to: Examiner Xuan Lan T. Nguyen, Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 fax number (703) 872-9306 on:

July 11, 2005
Date of Deposit

Angie Moscovitz


Signature

AMENDMENT AND REQUEST FOR RECONSIDERATION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant submits this Amendment and Request for Reconsideration in response to the Final Office Action dated May 9, 2005. This response is being submitted within two months of the Office Action date such that, if necessary, an Advisory Action can issue. Please amend the above-identified application as follows:

IN THE DRAWINGS:

Please add the one sheet of drawings submitted herewith containing Figures 6, 7, and 8.

IN THE SPECIFICATION:

Please replace paragraph [0022] with the following amended paragraph:

[0022] ~~Two~~ Three embodiments will be explained below with reference to the following drawings wherein:

Please add the following three new paragraphs after paragraph [0027]:

[0027.1] Figure 6 is a longitudinal section through a vibration absorber in a third embodiment secured to a driveshaft.

[0027.2] Figure 7 shows the vibration absorber according to Figure 6 along section line B-B.

[0027.3] Figure 8 shows the vibration absorber according to Figure 6 along section line C-C.

Please replace paragraph [0029] with the following amended paragraph:

[0029] Below, Figures 1 to ~~[[5]]~~ 8 will initially be described jointly. They show an inventive vibration absorber 1 which is secured to a driveshaft 2. The driveshaft 2 serves to transmit torque in the driveline of a motor vehicle. For this purpose, the driveshaft, at its end, comprises shaft toothings 16, 17 to each of which an inner joint part (not illustrated) of a constant velocity universal joint can be attached.

Please replace paragraph [0035] with the following amended paragraph:

[0035] In the embodiment according to Figures 3 to 5, the supporting elements ~~[[5]]~~ 4 are arranged axially opposite the fixing sleeve 5; they are positioned radially inside the inner diameter of the mass member 3 and hold same coaxially at a distance from the driveshaft. The supporting elements 4 are provided in the form of ribs which are arranged parallel relative to one another, which extend axially outside the length of the mass member 3 and which are connected by an outer cylindrical member 18 made out of the same material. The supporting elements 4, starting from the cylindrical member 18, are directed individually radially inwardly. As is particularly obvious in Figure 5, the supporting elements 4 are uniformly circumferentially distributed and are arranged at equal distances from one another. The supporting elements 4 comprise a rectangular cross-section and, on their radial insides, each comprise a contact face 13 by means of which, in the mounted condition of the vibration absorber 1, they are supported on the driveshaft 2.

Please add the following new paragraph after paragraph [0036]:

[0036.1] In the embodiment according to Figures 6 to 8, the supporting elements 4 are arranged axially opposite the fixing sleeve 5; they are positioned radially inside the inner diameter of the mass member 3 and hold same coaxially at a distance from the driveshaft. The supporting elements 4 are provided in the form of ribs which are arranged parallel relative to one another, which extend partially axially outside the length of the mass member 3 and which are connected by an outer cylindrical member 18 made out of the same material. The supporting elements 4, starting from the cylindrical member 18, are directed individually radially inwardly. As is particularly obvious in Figure 7, the supporting elements 4 are uniformly circumferentially distributed and are arranged at equal distances from one another. The supporting elements 4 comprise a rectangular cross-section and, on their radial insides, each comprise a contact face 13 by means of which, in the mounted condition of the vibration absorber 1, they are supported on the driveshaft 2.

IN THE CLAIMS:

1. (currently amended) A vibration absorber for attaching to a rotatable driveshaft comprising an annular-cylindrical mass member (3) arranged at a radial distance from the driveshaft; a plurality of circumferentially spaced elastic supporting elements (4) shaped to be positioned on the driveshaft, which are firmly connected to the mass member (3) and which, relative thereto, extend radially inwardly; and ~~an~~ one elastic fixing sleeve (5) only shaped to be positioned on the driveshaft and which, at one end, is connected to the mass member (3),

wherein the supporting elements (4), in the axial direction, extend along only a portion of the length of the mass member (3), and are arranged at ~~an~~ a first axial distance from an end of the mass member (3) opposite the fixing sleeve (5) and at a second axial distance greater than the first from an end of the mass member next to the fixing sleeve (5).

2. (previously presented) A vibration absorber according to claim 1, wherein the fixing sleeve (5), starting from the end connected to the mass member (3), comprises a circumferentially closed, radially tapered sleeve portion (7).

3. (previously presented) A vibration absorber according to claim 2, wherein the fixing sleeve (5), at an end opposing the mass member (3), comprises a cylindrical collar portion (8) with a seat face (9).

4. (previously presented) A vibration absorber according to claim 1, wherein radial outside portions of the supporting elements (4) are connected to one another to form an annular elastic member (6).

5. (original) A vibration absorber according to claim 1, wherein the supporting elements (4) and the fixing sleeve (5) are integrally connected to one another in an annular elastic member (6).

6. (original) A vibration absorber according to claim 5, wherein the mass member (3), in the form of an insert, is integrally formed in the annular elastic member (6) with the supporting elements (4) and the fixing sleeve (5).

7. (original) A vibration absorber according to claim 1, wherein the cylindrical mass member (3) is metal.

8. (previously presented) A vibration absorber according to claim 7, wherein the cylindrical mass member is formed out of plate metal.

9. (original) A vibration absorber according to claim 3, wherein the sleeve portion (7) of the fixing sleeve (5) is shaped to be conical from the mass member (3) to the collar portion (8).

10. (original) A vibration absorber according to claim 9, wherein the wall thickness in the sleeve portion (7) decreases from the mass member (3) to the collar portion (8).

11. (original) A vibration absorber according to claim 9, wherein the wall thickness in the sleeve portion (7) is constant from the mass member (3) to the collar portion (8).

12. (original) A vibration absorber according to claim 9, wherein the wall thickness of the sleeve portion (7) increases from the mass member (3) to the collar portion (8).

13. (original) A vibration absorber according to claim 3, wherein the collar portion (8) of the fixing sleeve (5) comprises a continuous annular groove (11) for receiving a clamp band (12).

14. (cancelled)

15. (cancelled)

16. (cancelled)

17. (cancelled)

18. (original) A vibration absorber according to claim 1, wherein each of the supporting elements (4) comprise substantially identical cross-sectional shapes.

19. (original) A vibration absorber according to claim 1, wherein the supporting elements (4) are arranged so as to be uniformly circumferentially distributed at equal distances from one another.

20. (original) A vibration absorber according to claim 1, wherein the elastic material of the supporting elements (4) and of the fixing sleeve (5) is rubber.

21. (original) A vibration absorber according to claim 1, wherein the sleeve portion (7) includes openings formed therein.

22. (currently amended) A vibration absorber for attaching to a rotatable driveshaft comprising an annular-cylindrical mass member (3) arranged at a radial distance from the driveshaft; a plurality of circumferentially spaced elastic supporting elements (4) shaped to be positioned on the driveshaft, which are firmly connected to the mass member (3) and which, relative thereto, extend radially inwardly; and ~~an~~ one elastic fixing sleeve (5) only shaped to be positioned on the driveshaft and which, at ~~its~~ one end, is connected to the mass member (3),

wherein the supporting elements (4), in the axial direction, extend along only a portion of the length of the mass member (3),

wherein the supporting elements (4) are connected to the mass member (3) axially opposite the fixing sleeve (5) and

wherein the supporting elements (4) are arranged at least partially axially outside the length of the mass member (3) and adjoining an end of the mass member (3).

23. (previously presented) A vibration absorber according to claim 22, wherein the fixing sleeve (5), starting from the end connected to the mass member (3), comprises a circumferentially closed, radially tapered sleeve portion (7).

24. (previously presented) A vibration absorber according to claim 23, wherein the fixing sleeve (5), at an end opposing the mass member (3), comprises a cylindrical collar portion (8) with a seat face (9).

25. (previously presented) A vibration absorber according to claim 22, wherein radial outside portions of the supporting elements (4) are connected to one another to form an annular elastic member (6).

26. (previously presented) A vibration absorber according to claim 22, wherein the supporting elements (4) and the fixing sleeve (5) are integrally connected to one another in an annular elastic member (6).

27. (previously presented) A vibration absorber according to claim 26, wherein the mass member (3), in the form of an insert, is integrally formed in the annular elastic member (6) with the supporting elements (4) and the fixing sleeve (5).

28. (previously presented) A vibration absorber according to claim 22, wherein the cylindrical mass member (3) is metal.

29. (previously presented) A vibration absorber according to claim 28, wherein the cylindrical mass member is formed out of plate metal.

30. (previously presented) A vibration absorber according to claim 24, wherein the sleeve portion (7) of the fixing sleeve (5) is shaped to be conical from the mass member (3) to the collar portion (8).

31. (previously presented) A vibration absorber according to claim 30, wherein the wall thickness in the sleeve portion (7) decreases from the mass member (3) to the collar portion (8).

32. (previously presented) A vibration absorber according to claim 30, wherein the wall thickness in the sleeve portion (7) is constant from the mass member (3) to the collar portion (8).

33. (previously presented) A vibration absorber according to claim 30, wherein the wall thickness of the sleeve portion (7) increases from the mass member (3) to the collar portion (8).

34. (previously presented) A vibration absorber according to claim 24, wherein the collar portion (8) of the fixing sleeve (5) comprises a continuous annular groove (11) for receiving a clamp band (12).

35. (previously presented) A vibration absorber according to claim 22, wherein each of the supporting elements (4) comprise substantially identical cross-sectional shapes.

36. (previously presented) A vibration absorber according to claim 22, wherein the supporting elements (4) are arranged so as to be uniformly circumferentially distributed at equal distances from one another.

37. (previously presented) A vibration absorber according to claim 22, wherein the elastic material of the supporting elements (4) and of the fixing sleeve (5) is rubber.

38. (previously presented) A vibration absorber according to claim 22, wherein the sleeve portion (7) includes openings formed therein.

39. (new) A vibration absorber according to claim 22, wherein the supporting elements (4) are arranged completely axially outside the length of the mass member (3).

40. (new) A vibration absorber according to claim 22, wherein the supporting elements (4) are arranged partially axially outside and partially axially inside the length of the mass member (3).

REMARKS

Claims 1-13 and 18-38 are pending in the application. All claims stand rejected. Claims 22-38 stand rejected under 35 U.S.C. §112, first paragraph, for lack of enablement. Claims 22-38 also stand rejected under 35 U.S.C. §112, second paragraph, for indefiniteness. Claims 1-13, 18-20 and 22-37 stand rejected under 35 U.S.C. §103 as being unpatentable over Yokoda, JP 2-221731 in view of Gallmeyer, U.S. Patent No. 5,660,256. Finally, claims 21 and 38 stand rejected under 35 U.S.C. §103 as being unpatentable over Yokoda in view of Gallmeyer and further in view of Kogyo, JP 08177976 A.

The Examiner's comments have been carefully considered by Applicant and the Applicant respectfully submits that the case, as presently amended, is in a condition for allowance. In this regard, the Applicant respectfully request that the foregoing amendments be entered because they do not add any new matter, do not raise any new issues for consideration, and will place the case in a condition for allowance or in a better form for appeal, if necessary.

With regard to the rejections 35 U.S.C. §112, first paragraph, Applicant submits that an enabling disclosure has been provided. Specifically, the specification uses language commensurate in scope with the claims. For example, the specification as filed at paragraph [0016] describes the embodiment of claim 22 wherein the supporting elements can be arranged at least partially axially outside the length of the mass member so as to adjoin the end of the mass member. Further, claims 14 and 17 as originally filed (which form part of the specification) similarly disclose that the supporting elements extend only along a portion of the length of the mass member and are arranged at least partially axially outside the length of the mass member adjoining an end of the mass member. Thus, Applicant submits that one of skill in the art would readily understand what is claimed and, further, submit that an enabling disclosure has been provided for claim 22 which would permit one of skill in the art to practice the claimed invention without any undue experimentation. Nevertheless, to be perfectly clear, Applicant submits herewith one new sheet of drawings containing Figures 6-8

showing one specific example of an embodiment of claim 22. The specification has likewise been amended merely to describe what is shown in newly submitted Figures 6-8. Indeed, Figures 6-8 should aid in highlighting the patentable differences between the present invention and the prior art. Again, no new matter has been added, and no new arguments for consideration are being presented, by the additional figures or specification changes. Thus, these amendments should be entered because they will place the case in a condition for allowance or in a better form for appeal, if necessary.

With regard to the rejections under 35 U.S.C. §112, second paragraph, the indefiniteness problem has been overcome by amending claim 22 to remove the term "its." The claim, as amended, should be clear that the fixing sleeve (5) is connected at one end to the mass member (3).

With regard to the rejections under 35 U.S.C. §103, the Applicant submits that a *prima facie* case of obviousness has still not been established by the newly cited prior art. In this regard, the presently claimed vibration absorber has several advantages over prior art designs. For example, because the supporting elements are arranged at the mass member around the circumference and spaced at a distance from one another, it enables the annular chamber formed between the driveshaft and the mass member to be well ventilated. Thus, any humidity which enters the annular chamber and which can lead to corrosion, especially in connection with salt, can evaporate, thus reducing the risk of corrosion at the driveshaft. (See paragraph [0010]). This is a feature of independent claims 1 and 22 as originally filed. The further amendments to claim 1 presented herein are intended to clarify that there is only one fixing sleeve and that the supporting elements are arranged nearer to the open end of the mass member than to the fixing sleeve end of the mass member. Similarly, the amendment of independent claim 22 is intended to clarify that there is only one fixing sleeve. Because the supporting elements are arranged nearer to the open end of the mass member than to the fixing sleeve, it is possible to adapt the vibration damper of the present invention to lower frequency resonances of the shaft. This was not possible with prior art vibration dampers such as disclosed in Yokoda '731 or Gallmeyer.

The Yokoda '731 reference at Figure 1, discloses a damper having one fixing sleeve and one annular supporting element. Indeed, the Office Action recognizes that "Yokoda's supporting element 3 lacks a plurality of circumferentially spaced elastic support elements" as recited in independent claims 1 and 22. Thus, Yokoda would suffer from the same corrosion problems as other prior art vibration dampers. That is, the annular supporting portion of Yokoda creates a sealed chamber subject to corrosion. Further, the problem of corrosion, which is addressed by the present invention, is not recognized in the Yokoda or Gallmeyer references. Additionally, the Yokoda reference fails to disclose or suggest that the supporting element 2 be arranged at a distance from the end of the mass member opposite the fixing sleeve as recited in claim 1. Applicant therefore submits that a *prima facie* case of obviousness has not been established. In other words, the obviousness rejection cannot be maintained in light of the complete lack of teaching of Applicant's claimed plurality of circumferentially spaced elastic supporting elements as well as a complete absence of any suggestion or motivation to modify the Yokoda reference to include a plurality of supporting elements extending along only a portion of the length of the mass member and arranged at a first axial distance from an end of the mass member opposite the fixing sleeve and at a second axial distance greater than the first from an end of the mass member next to the fixing sleeve (claim 1). Nor does the combination of references disclose that the supporting elements are connected to the mass member axially opposite the fixing sleeve and arranged at least partially axially outside the length of the mass member adjoining an end thereof (claim 22).

Yokoda would not be modified in light of Gallmeyer to arrive at the presently claimed device. The Gallmeyer reference does not disclose any fixing sleeve whatsoever. Thus, Gallmeyer fails to disclose Applicant's claimed feature that the supporting elements are arranged at an axial distance from an end of the mass member opposite the fixing sleeve (claim 1), or that the supporting elements are connected to the mass member axially opposite the fixing sleeve (claim 22). Accordingly, Applicant submits that the combination of Yokoda and Gallmeyer would not render obvious Applicant's claimed invention because Yokoda or Gallmeyer, either alone or in

combination, fail to disclose or suggest each and every feature of Applicant's claimed invention.

Applicant further submits that the rejections under 35 U.S.C. §103 should be withdrawn because no reason has been shown why one of ordinary skill in the art would modify the Yokoda reference as suggested in Office Action. The Yokoda reference does not address the same problem as the present invention; namely, preventing moisture build-up and corrosion at the driveshaft under the vibration absorber. Thus, there is no implicit or explicit motivation for one of ordinary skill in the art to modify the Yokoda device to use a plurality of support members as claimed in the present invention. For this reason, the Applicant submits that the Office Action impermissibly uses the present invention as a template for modifying the prior art. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984) ("It is impermissible to use the patent itself as the source of suggestion.") The focus must remain on what the prior art suggested to one of skill in the art at the time the invention was made, as obviousness cannot be established by combining pieces of prior art absent some "teaching, suggestion or incentive supporting the combination." *In re Geiger*, 815 F.2d 686, 688 (Fed. Cir. 1987).

The Applicant therefore submits that the present claims are allowable because the prior art relied upon does not disclose or suggest each and every feature of Applicant's claimed invention. Further, no valid reason has been shown as to why one of skill in the art would modify the Yokoda reference to arrive at the claimed invention particularly because the Yokoda and Gallmeyer references do not address the corrosion problem addressed by the present invention or the ability of the vibration absorber to accommodate lower frequency resonances of the shaft.

Figure 4 of Yokoda is equally unavailing to support the obviousness rejections of claim 22. Figure 4 of Yokoda merely shows two fixing sleeves, one at each end of the mass member. Thus, this embodiment of Yokoda would likewise be characterized by corrosion problems. Further, both of the fixing sleeves are attached by clamp bands such that their function as an annular supporting element would be hindered.

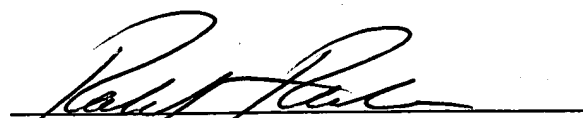
As Gallmeyer fails to show a fixing sleeve at all, or any supporting elements that are at least partially axially outside the mass member, the combination of Yokoda and Gallmeyer similarly fails to disclose at least the claimed features of independent claim 22 wherein only one fixing sleeve is provided and the circumferentially distributed supporting elements are arranged at least partially axially outside the mass member.

Dependent claims 2-13, 18-21 and 23-38 should be allowable for at least the same reasons set forth with respect to independent claims 1 and 22. Further, new claims 39 and 40 should be allowable for at least the same reasons. Claim 39 depends from claim 22 and further specifies the embodiment of Figures 3, 4, and 5. Likewise, claim 40 should be allowable for the same reasons as set forth with respect to claim 22 and further modifies the claim to specifically address the embodiment of Figures 6, 7, and 8. No new matter or issues are raised with respect to claims 39 and 40.

Having overcome all of the objections and rejections set forth in the Office Action, the Applicant submits that the case is in a condition for allowance, and a Notice of Allowability is therefore earnestly solicited. The Examiner is invited to telephone the Applicant's undersigned attorney at (248) 223-9500 if any unresolved matters remain. The Examiner is further authorized to charge any fees or credit any overpayments to Deposit Account No. 50-0476 in the name of John A. Artz, P.C. should that be necessary in view of the newly cited claims.

Respectfully Submitted,

ARTZ & ARTZ P.C.



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Dated: July 11, 2005

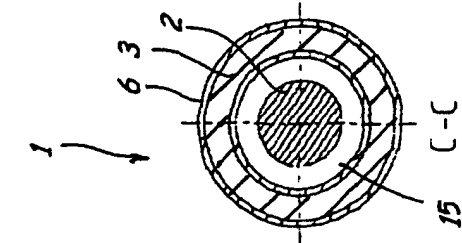
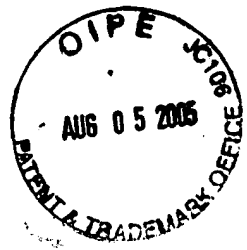


FIG. 8

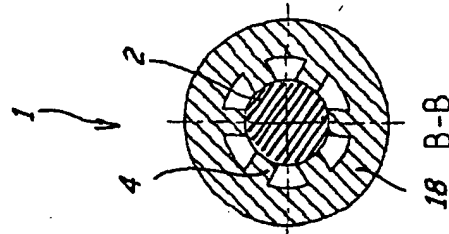


FIG. 7

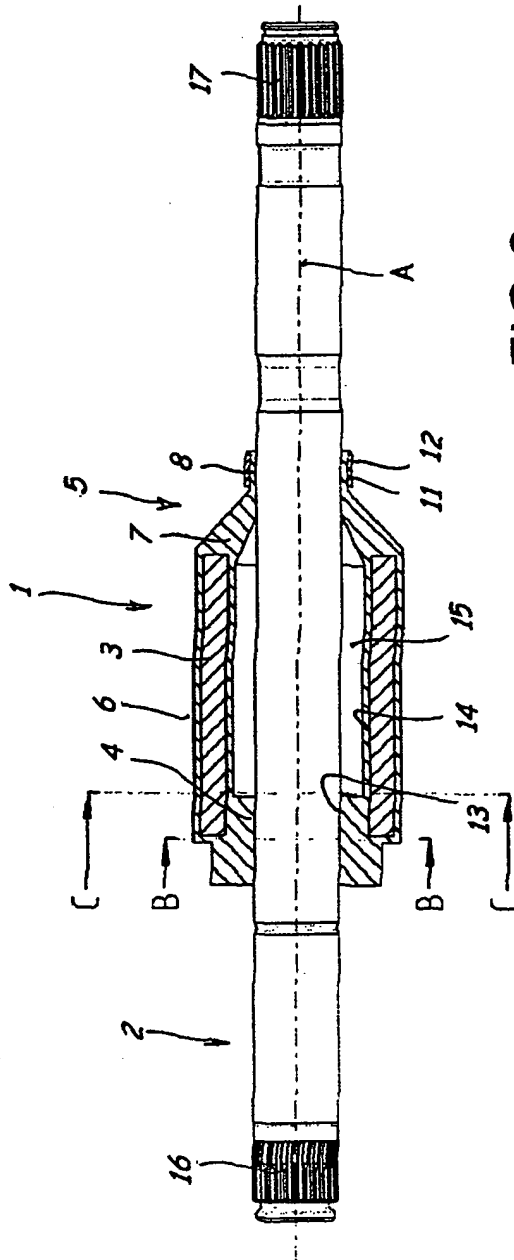


FIG. 6